

A new species of *Conocardium* Bronn, 1834 (Mollusca: Rostroconchia) from the Mississippian of Missouri, U. S. A.

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Abstract: The rostroconch *Conocardium formosum* n. sp. is described from the Mississippian (Chesterian) of Missouri. The narrow, elongate shape of the shell is different from all other known North American species of the genus.

Key Words: Mollusca, Rostroconchia, Mississippian, Missouri

Numerous reports on North American Mississippian rostroconchs have appeared, among which are: Hall (1856, 1883); Winchell (1862, 1870); White and Whitfield (1862); Whitfield (1882); Herrick (1888a, b); Miller (1892); Rowley (1900); Beede (1906); Girty (1910); Weller (1916, 1921); Branson (1942, 1958); Pojeta and Runnegar (1976); and Hoare (1990). Species of *Conocardium* s.s. were included in many of these reports but only that of Pojeta and Runnegar (1976) included narrowly elongate forms of the genus. These authors illustrated but did not describe two specimens, one Pennsylvanian and one Mississippian in age, designating both as *Conocardium* aff. *C. elongatum* (Sowerby, 1815). *Conocardium elongatum* is a Lower Carboniferous (Mississippian) species known from England and is quite different from the American Mississippian species described herein.

The holotype is in the collections of the National Museum of Natural History (USNM).

SYSTEMATICS

Class Rostroconchia Pojeta, Runnegar, Morris, and Newell, 1972

Order Conocardioida Neumayr, 1891

Superfamily Conocardiacea Miller, 1889

Family Conocardiidae Miller, 1889

Genus *Conocardium* Bronn, 1834

Conocardium formosum, new species

Fig. 1

Conocardium aff. *C. elongatum* (Sowerby). Pojeta and Runnegar, 1976, p. 70, pl. 38, figs. 4-7.

Diagnosis. Narrowly elongate shell with distinct separation of body and snout; strongly developed folded wing-like structure dorsally and laterally on snout.

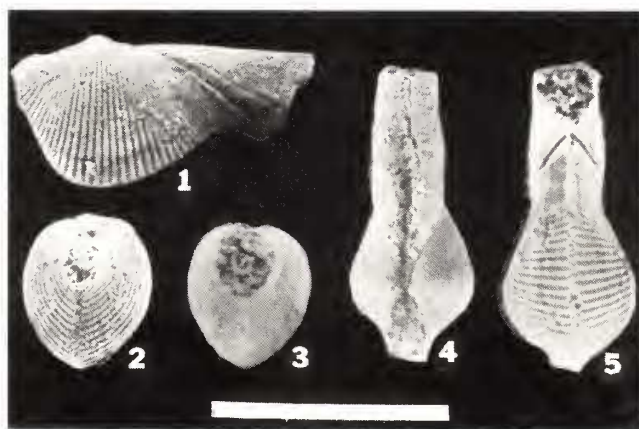


Fig. 1. *Conocardium formosum* n. sp. 1-5, holotype, right lateral, posterior, anterior, dorsal, and ventral views. Carterville Formation, Missouri. USNM 209298 (scale bar = 1 cm).

tion of body and snout; strongly developed folded wing-like structure dorsally and laterally on snout.

Description. Elongate, narrow, body distinct from snout; sides of snout subparallel; umbonal areas extend slightly above hinge line; dorsal margin slopes ventrally from beak area both posteriorly and anteriorly; ventral margin of body convex below beaks becoming straighter towards rostrum and snout, curves sharply ventrally meeting snout area anteriorly; anterior gape subcircular, restricted to anterior extremity; posterior orifice lacking; rostrum suboval in cross section, length unknown; rostral face and body with 29 even-sized, rounded, closely-spaced, radial costae with narrow interspaces followed anteriorly by 10 fine more

widely spaced costae; snout ornamentation begins at beak area as a V-shaped, folded, wing-like structure expanding anteriorly on dorsal and lateral surfaces, marked ventrally by four coarse costae followed dorsally by five or more fine, widely-spaced costae; ventrally, snout ornamentation forms an inverted V-shaped margin with radial costae near anterior gape; inner shelves not visible.

Measurements. Length, not including rostrum, 13.1 mm; width, 5.1 mm; height, 6.8 mm.

Etymology. Latin, *formosum*, beautifully formed.

Type. Holotype, USNM 209298.

Occurrence. Upper Carterville Formation (Mississippian, Chesterian) in mine dump near Duenweg, Missouri.

Discussion. *Conocardium formosum* differs from *C. elongatum* (Sowerby, 1815) by the presence of a more sharply set-off wing-like structure on the snout, a more abruptly curved rostral face, a narrower, more distinctly separated snout from the body, and sides of snout subparallel not converging anteriorly. Other Chesterian species that have been described (e. g. *C. peculiare* Girty, 1910; *C. chesterensis* Weller, 1921) are not as elongate and have much smaller length/height ratios as is the case for all other Mississippian species of the genus known in North America.

The folded wing-like structure on the snout of *Conocardium formosum* is similar to the structure present on the snout of species of the genus *Arceodomus* Pojeta and Runnegar, 1976. *Arceodomus* has a thin, relatively smooth outer shell layer covering the radial costae on the body. No trace of such an outer layer is present on the holotype of *C. formosum*. The ornamentation on the snout of the Pennsylvanian *Arceodomus prolata* Hoare and Mapes, 1990, differs significantly from that of *C. formosum* in having coarser, evenly-sized and spaced radial costae with intervening fine radial and transverse lirae.

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